REMARKS

Claims 1-12, 14-16, 18-32, 34-36, 38, 41 and 42 are currently pending in the subject application and are presently under consideration. Claims 1, 14, 18, 32 and 38 have been amended as shown at pages 2-8 of the Reply.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I.   **Rejection of Claim 14 Under 35 U.S.C §112**

Claim 14 is rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 14 has been amended to cure any deficiencies related to this rejection. Therefore, this rejection should be withdrawn.

II.   **Rejection of Claims 1-4, 6-12, 14, 15, 18, 20-24, 38 and 42 Under 35 U.S.C §103(a)**

Claims 1-4, 6-12, 14, 15, 18, 20-24, 38 and 42 are rejected under 35 U.S.C §103(a) as being unpatentable over Tang *et al.* (U.S. 6,636,849), Shanahan *et al.* (U.S. Appln. 2003/0033288) and Beeferman *et al.* (U.S. 6,701, 309) in further view of Hitachi (Derwent, published: Feb 16, 2001, Abstract). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Tang *et al.*, Shanahan *et al.* and Beeferman *et al.*, and Hitachi, alone or in combination do not teach each and every element of applicants' invention as recited in the subject claims.

> A single prior art reference anticipates a patent claim only if it expressly or inherently describes each and every limitation set forth in the patent claim. *Trintec Industries, Inc., v. Top-U.S.A. Corp.*, 295 F.3d 1292, 63 U.S.P.Q.2D 1597 (Fed. Cir. 2002); *See Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the … claim. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

The subject claims relate to identifying potentially misspelled substrings and providing alternate spellings that may be more correct. For example, when a user enters a query, such as

"thanksgiving turkey ad stuffing recips", the words "ad" and "recips" may be identified as misspelled based upon the overall context of the query. An alternate query such as "thanksgiving turkey and stuffing recipes" may be suggested. As a further enhancement to the process, an identification of alternate spellings of "recips" can be performed in an iteration prior to identifying alternate spellings of "ad." In particular, independent claim 1 (and similarly independent claim 38 recites *the spell checking component employs **an iterative process where alternative spellings for potentially misspelled stop words in the substring are identified in an iteration after the iteration where alternative spellings for potentially misspelled words that are not stop words in the same substring are identified***.

Tang *et al.*, Shanahan *et al.* and Beeferman *et al.*, and Hitachi do not teach or suggest the aforementioned novel features of applicant's claimed invention as recited in the subject claims. Tang *et al.* discloses a system for faster searching by employing metric spaces, multi-grid indexes, and B-grid trees built from a lexicon. Searches are conducted against this alternate representation of the lexicon to identify alternate spellings of a word. Shanahan *et al.* discloses a system for auto-completing an inputted substring fragment. The system employs a database of entities to match the fragment against an entity for auto-completion which may also include auto-correction. The database of entities may be derived a set of target documents that are to be searched. Beeferman *et al.* teaches a system for identifying related queries based upon analyzing one or more user session logs. The system performs counts of pair of successive queries and then ranks the pairs based upon the count. Recommendation of related queries can then be provided to other users when they enter one query from a pair. Hitachi discloses counting bigrams in input document data and then displaying bigrams that meet a predefined condition. However, Tang *et al.*, Shanahan *et al.* and Beeferman *et al.*, and Hitachi are all silent regarding performing an iteration to suggest alternative spellings for potentially misspelled words that are not stop-words and then performing a subsequent iteration to identify alternate spellings for potentially misspelled stop words from the same substring.

In view of at least the foregoing discussion, applicant's representative respectfully submits that Tang *et al.*, Shanahan *et al.* and Beeferman *et al.*, and Hitachi, alone or in combination fail to teach or suggest all limitations of applicant's invention as recited in independent claims 1 and 38 (and claims 2-4, 6-12, 14, 15, 18, 20-24 and 42 that respectfully

depend there from), and thus fails to anticipate the subject claimed invention. Accordingly, withdrawal of this rejection is respectfully requested.

III.   Rejection of Claim 5 Under 35 U.S.C §103(a)

Claim 5 is rejected under 35 U.S.C. §103(a) as being unpatentable over Tang *et al.* (U.S. 6,636,849), Shanahan *et al.* (U.S. Appln. 2003/0033288) and Beeferman *et al.* (U.S. 6,701, 309) and Hitachi (Derwent, published: Feb 16, 2001, Abstract) in further view of de Hita *et al.* (U.S. 6,081,774).

Claim 5 depends from independent claim 1. As noted *supra*, Tang *et al.*, Shanahan *et al.* and Beeferman *et al.*, and Hitachi, do not teach or suggest each and every element of the subject invention as recited in this independent claim, and Hita *et al.* fails to make up for the aforementioned deficiencies of these cited references. Hita *et al.* discloses an information retrieval system that is based upon pattern matching and natural language processing. The system is capable of accommodating commonly misspelled words by associating them with correctly spelled words in the information retrieval database. Hita *et al.* does not suggest alternate spellings for potentially misspelled words. Furthermore, Hita *et al.,* like the cited references above, is also silent regarding *employing an iterative process **where alternative spellings for potentially misspelled stop words in the substring are identified in an iteration after the iteration where alternative spellings for potentially misspelled words that are not stop words in the same substring are identified**.*

Therefore, applicants' representative respectfully submits that Tang *et al.*, Shanahan *et al.* and Beeferman *et al.*, Hitachi, and Hita *et al.*, alone or in combination, fail to teach or suggest all limitations of applicants' invention as recited in independent claim 1 (and claim 5 that respectfully depend there from), and thus fails to make obvious the claimed invention. Thus, withdrawal of this rejection is respectfully requested.

IV.   Rejection of Claim 16 Under 35 U.S.C §103(a)

Claim 16 is rejected under 35 U.S.C. §103(a) as being unpatenatble over Tang *et al.* (U.S. 6,636,849), Shanahan *et al.* (U.S. Appln. 2003/0033288) and Beeferman *et al.* (U.S. 6,701, 309) and Hitachi (Derwent, published: Feb 16, 2001, Abstract) in further view of Herz *et al.* (U.S. 5,754,939).

Claim 16 depends from independent claim 1. As noted *supra*, Tang *et al.*, Shanahan *et al.* and Beeferman *et al.*, and Hitachi, do not teach or suggest each and every element of the subject invention as recited in this independent claim, and Herz *et al.* fails to make up for the aforementioned deficiencies of these cited references. Herz *et al.* discloses a search system that build a target profile of each potential target object that identifies frequency of each word and also builds a user profile of user interests. The system then ranks target objects based upon matching user interests to words in the target objects and the words frequency of occurrence. The cited reference does not disclose providing alternate spellings for potentially misspelled words. Furthermore, Herz *et al.*, like the cited references above, is also silent regarding *employing an iterative process* **where alternative spellings for potentially misspelled stop words in the substring are identified in an iteration after the iteration where alternative spellings for potentially misspelled words that are not stop words in the same substring are identified**.

Accordingly, applicants' representative respectfully submits that Tang *et al.*, Shanahan *et al.* and Beeferman *et al.*, Hitachi, and Herz *et al.*, alone or in combination, fail to teach or suggest all limitations of applicants' invention as recited in independent claim 1 (and claim 5 that respectfully depend there from), and thus fails to make obvious the claimed invention. For that reason, withdrawal of this rejection is respectfully requested.

V.   Rejection of Claims 19, 26- 36 Under 35 U.S.C §103(a)

Claims 19, 26-36 are rejected under 35 U.S.C. §103(a) as being unpatentable over Tang *et al.* (U.S. 6,636,849), Shanahan *et al.* (U.S. Appln. 2003/0033288) and Beeferman *et al.* (U.S. 6,701, 309) and Hitachi (Derwent, published: Feb 16, 2001, Abstract) in further view of Srihari *et al.* (ACM, published: January 1983, pages 72-75).

Independent claim 32 (similar to independent claim 1) recites *the iterative correction process includes* **identifying alternative spellings for potentially misspelled stop words in the substrings in an iteration after an iteration identifying alternative spellings for potentially**

misspelled words that are not stop words in the same substrings; Claim 16 depends from independent claim 1. As noted *supra*, Tang *et al.*, Shanahan *et al.* and Beeferman *et al.*, and Hitachi, do not teach or suggest each and every element of the subject invention as recited in these independent claims, and Srihari *et al.* fails to make up for the aforementioned deficiencies of these cited references. Srihari *et al.* discloses a text correction system that combines a data driven process with a concept driven process. The cited reference employs an iterative process that goes through all of the words sequentially to identify necessary corrections from a dictionary. Srihari *et al.* is silent regarding stop words. As such, Srihari *et al.* is also silent regarding performing an iteration to suggest alternative spellings for potentially misspelled words that are not stop-words and then performing a subsequent iteration to identify alternate spellings for potentially misspelled stop words from the same substring.

In view of at least the foregoing, applicants' representative respectfully submits that Tang *et al.*, Shanahan *et al.* and Beeferman *et al.*, Hitachi, and Srihari *et al.*, alone or in combination, fail to teach or suggest all limitations of applicants' invention as recited in independent claims 1 and 32 (and claims 19, 26-31, and 33-36 that respectfully depend there from), and thus fails to make obvious the claimed invention. Accordingly, withdrawal of this rejection is respectfully requested.

VI.   Rejection of Claim 25 Under 35 U.S.C §103(a)

Claim 25 is rejected under 35 U.S.C. §103(a) as being unpatenatable over Tang *et al.* (U.S. 6,636,849), Shanahan *et al.* (U.S. Appln. 2003/0033288) and Beeferman *et al.* (U.S. 6,701, 309) and Hitachi (Derwent, published: Feb 16, 2001, Abstract) in further view of Brill *et al.* (Microsoft Research: 'An Improved Error Model for Noisy Channel Spelling Correction', published: 2000, 8 pages)

Claim 25 depends from independent claim 1. As noted *supra*, Tang *et al.*, Shanahan *et al.* and Beeferman *et al.*, and Hitachi, do not teach or suggest each and every element of the subject invention as recited in this independent claim, and Brill *et al.* fails to make up for the aforementioned deficiencies of these cited references. Brill *et al.* teaches a spelling correction system that employs a probability model against partitions of a string to determine misspelled words. The cited reference does not disclose stop words and therefore is silent regarding *employing an iterative process* **where alternative spellings for potentially misspelled stop words**

in the substring are identified in an iteration after the iteration where alternative spellings for potentially misspelled words that are not stop words in the same substring are identified.

Accordingly, applicants' representative respectfully submits that Tang *et al.*, Shanahan *et al.* and Beeferman *et al.*, Hitachi, and Brill *et al.*, alone or in combination, fail to teach or suggest all limitations of applicants' invention as recited in independent claim 1 (and claim 25 that respectfully depend there from), and thus fails to make obvious the claimed invention. For that reason, withdrawal of this rejection is respectfully requested.

CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [MSFTP585US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

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